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10/019,451	07/30/2002	Elvir Causevic	KEDI 7230US	4217

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EXAMINER

SZMAL, BRIAN SCOTT

ART UNIT PAPER NUMBER

3736

DATE MAILED: 10/28/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/019,451

Applicant(s)

CAUSEVIC ET AL.

Examiner

Brian Szmaj

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14-17, 24 and 28 is/are rejected.
- 7) ☒ Claim(s) 12, 13, 18-23 and 25-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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***Claim Objections***

1. Claim 4 is objected to because of the following informalities: In line 2, "recording assessing" appears it should read as "recording" or "assessing". Appropriate correction is required.
2. Claim 18 is objected to because of the following informalities: ";" in line 1 should be ":", and ";" in line 12 should be ".". Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Dolphin ('091).  
  
Dolphin discloses an audiometric apparatus and screening methods and further discloses a portable hand-held enclosure; a signal processor housed in the enclosure, the processor having a computer program operated on command by the user, the program producing auditory tests selected from the group comprising of OAE, ABR, tympanometry, and otoreflectance; a display operatively connected to the signal processor, displaying the results; a connection point on the enclosure for a probe, the connection point being operatively connected to the signal processor; a rechargeable power supply for

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operating the signal processor; a plurality of electrodes for collecting data from a patient, the electrodes being operatively connected to the signal processor; a tympanometry interface connected to the signal processor for recording middle ear pressure on a test subject and adjusting a minor middle ear conditions during OAE and ABR testing; and an otorelectance interface operatively connected to the signal processor for assessing middle ear conditions. See Column 4, lines 9-28; Column 6, lines 43-65; Column 7, lines 5-17 and 56-67; and Column 8, lines 1-10.

5. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Zurek et al.

Zurek et al disclose a method for testing adequacy of hearing and further disclose receiving OAE signal information in frames; overlapping information from a preceding frame for use in connection with information from a succeeding frame; and making a determination to accept the data, reject the data but update the noise average or discard the data based upon predefined parameters. See Column 4, lines 34-48; and Column 5, lines 20-62.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dolphin ('091) as applied to claim 1 above, and further in view of Combs et al. Dolphin, as discussed above, discloses an audiometric apparatus and screening methods, but fail to disclose an OAE simulator interface operatively connected to the signal processor for testing the integrity of the OAE system.

Combs et al disclose a device and process for generating and measuring the shape of an acoustic reflectance curve of an ear and further disclose an OAE simulator interface operatively connected to the signal processor for testing the integrity of the OAE system. See Column 15, lines 31-44; Column 18, lines 66-67; and Column 19, lines 1-2.

Since both Dolphin and Combs et al disclose means for testing the hearing of a person, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Dolphin to include the means for testing the OAE system, as per the teachings of Combs et al, since it would provide a means for testing and calibrating the device in order to provide accurate results.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dolphin ('091) and Combs et al as applied to claim 5 above, and further in view of Shennib.

Dolphin and Combs et al, as discussed above, disclose means for testing the hearing of a person, but fail to disclose the use of an infrared interface operatively connected to the signal processor for permitting communication between the signal processor and an external device.

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Shennib discloses a headset hearing tester and hearing aid programmer and further disclose an infrared interface operatively connected to the signal processor for permitting communication between the signal processor and an external device. See Column 5, lines 19-33.

Since Dolphin, Combs et al and Shennib disclose means for testing the hearing of a person, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Dolphin and Combs et al to include the use of an infrared communications link, as per the teachings of Shennib, since it is well known in the art to utilize several different types of wireless communication systems, including infrared transmission.

9. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolphin ('091), Combs et al and Shennib as applied to claim 6 above, and further in view of Zurek et al.

Dolphin, Combs et al and Shennib, as discussed above, disclose means for testing a person's hearing, but fail to disclose the use of a memory subsystem connected to the signal processor; a memory mapped input/output device operatively connected to the memory subsystem and to the signal processor, the display being connected to the signal processor through the memory mapped device.

Zurek et al, as discussed above, disclose a method for testing adequacy of hearing and further disclose a memory subsystem connected to the signal processor; and a memory mapped input/output device operatively connected to the memory subsystem and to the signal processor, the display being connected

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to the signal processor through the memory mapped device. See Column 4, lines 34-63; and Column 5, lines 20-62.

Since Dolphin, Combs et al, Shennib and Zurek et al disclose means for testing the hearing of a person, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Dolphin, Combs et al and Shennib to include the use of a memory subsystem, as per the teachings of Zurek et al, since it would provide a means to compare the received information to previous information. It also would have been obvious to one of ordinary skill in the art to connect a keyboard to the memory subsystem, since it is well known to utilize a keyboard with a computer system, which normally utilizes a memory subsystem, or RAM.

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dolphin ('091) as applied to claim 1 above, and further in view of Zurek et al. Dolphin, as discussed above, discloses an audiometric apparatus and screening methods but fails to disclose the signal processor performing a time domain sum and average over time for obtaining OAE signal detection using a frame overlap method.

Zurek et al, as discussed above, disclose a method for testing adequacy of hearing and further disclose the signal processor performing a time domain sum and average over time for obtaining OAE signal detection using a frame overlap method. See Figures 4 and 5; and Column 4, lines 34-63; and Column 5, lines 20-62.

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Since both Dolphin and Zurek et al disclose means for testing a person's hearing, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Dolphin to include the use of a time domain sum and average over time for obtaining OAE signal detection, as per the teachings of Zurek et al, since it would provide a means of accurately obtaining the OAE signal over a time period.

11. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolphin ('091) and Zurek et al in view of Christiansen.

Dolphin, as discussed above, discloses an audiometric apparatus and screening methods and further discloses connecting the probe to a hand-held device; generating an auditory signal in the device; detecting auditory signals generated in the ear; and converting the analog signals to digital signals. See Column 4, lines 9-28; Column 6, lines 43-65; Column 7, lines 5-17 and 56-67; and Column 8, lines 1-10.

Zurek et al, as discussed above, disclose a method for testing adequacy of hearing and further disclose the use of sizing a new frame buffer for two primary tones and frequencies and a number of samples of tones produced by the ear; passing the data to a discrete Fourier transform to calculate the frequency specific magnitude and phase constant of the signal; comparing the magnitude and phase to a table to detect when the to reject the data; saving a copy of the frame data; sliding date frame by a predetermined amount; and collecting the data over a predetermined number of frames and averaging the data. See Figures 4 and 5; and Column 4, lines 34-63; and Column 5, lines 20-62.



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Dolphin and Zurek et al, however, fail to disclose storing the incoming data in a new frame buffer; and converting the data to frequency domain and displaying the data to the user in the device in real-time.

Christiansen discloses an otoacoustic emission analyzer and further discloses storing the incoming data in a new frame buffer; and converting the data to frequency domain and displaying the data to the user in the device in real-time.

See Column 4, lines 25-43.

Since Dolphin, Zurek et al and Christiansen disclose means for measuring the OAE from a patient, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Dolphin and Zurek et al to include the use of storing the incoming data and converting the data to a frequency domain, as per the teachings of Christiansen, since it would provide a means for accurately analyzing the raw data to determine the OAE value.

12. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dolphin ('091) in view of Combs et al.

Dolphin, as discussed above, discloses an audiometric apparatus and screening methods and further discloses a portable hand-held enclosure; a signal processor housed by the enclosure; the processor having an OAE program at least partially contained in the processor; and an ear probe interface operatively connected to the processor.

Dolphin, however, fails to disclose the processor generating simulated tones in response to tones generated by an ear probe.

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Combs et al, as discussed above, discloses a device and process for generating and measuring the shape of an acoustic reflectance curve of an ear and further disclose and further disclose the processor generating simulated tones in response to tones generated by an ear probe. See Column 15, lines 31-44; Column 18, lines 66-67; and Column 19, lines 1-2.

Since both Dolphin and Combs et al disclose means for measuring an OAE from a patient, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Dolphin to include the use of generating simulated tones, as per the teachings of Combs et al, since it would provide a means measuring the OAE from a patient while determining the accuracy of the received tones from the patient.

***Allowable Subject Matter***

13. Claims 12, 13, 19-23 and 25-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter: Claim 18 would be allowable once the objections set forth above are overcome. Claim 18 discloses the memory module maintaining a plurality of test subject records for display on the display screen, for which no prior art could be found teaching or suggesting the claimed subject matter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Szmaj who's telephone number is

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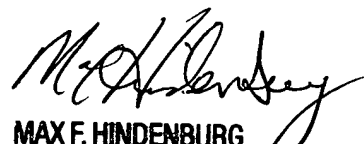
(703) 308-3737. The examiner can normally be reached on Monday-Friday, with second Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (703) 308-2701.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.



BS



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